SARS

Administering Department: Virology

Test Contact: Colleen Greenwalt 334-2235 ext 228

Purpose of Test:

To detect the presence of Sars-associated Coronavirus(SARS-CoV) antibodies or RNA in human specimens.

Method:

Detection of serum total antibodies to SARS-CoV by Enzyme-linked Immunoassay.
Detection of viral RNA by reverse transcription-polymerase chain reaction (RT-PCR)

Sample and Submission Guidelines:

Patient must meet the SARS case definition before collecting specimens. Consultation with district health department epidemiologist required.
Specimens must be accompanied by completed Specimen Submission form and signed consent forms for each PCR and ELISA test. (www.cdc.gov/ncidod/sars/lab/consent.htm)
Collect acute and 28-day convalescent sera.
PCR testing requires the testing of two clinical specimens from different sources, or two clinical specimens collected from the same source on 2 different days.
Ship with cold packs to keep sample at 4º C

SAMPLE	COLLECTION	SHIPPING
Blood:		
1. Serum - Acute and Convalescent (>28 days post onset of illness)	5-10 ml whole blood in serum separator tube (a minimum of 200 ul serum)	4ºC
2. Blood/plasma	5-10 ml in EDTA (purple top tube)	4ºC
Upper Respiratory:		
1. Nasopharyngeal wash/aspirate	collect in sterile vials *	4ºC
2. Nasopharyngeal and oropharyngeal swabs	use only sterile dacron or rayon swabs, ** place into 2ml sterile viral transport media	4ºC
Lower Respiratory:		
1. Sputum	expectorate deep cough sputum directly into sterile screw-cap collection container	4ºC
2. Broncheoalveolar lavage, tracheal aspirate, pleural tap	Centrifuge half of specimen, fix cell-pellet in formalin. Place unspun fluid in sterile vials.*	4ºC
Stool:	As large a quantity as can be obtained (at least 10 cc) in leak-proof, clean, dry container	4ºC

*vials with external caps, internal o-ring seals
** calcium alginate swabs or swabs with wooden sticks may inhibit PCR testing

Priority specimens to collect during course of illness for evaluation of potential cases of SARS

(Priority is based on likelihood that the specimen will be positive in a SARS-CoV-infected person)

Specimen	< 1 week post onset	1-3 weeks post onset	> 3 weeks post onset
EIA			
Serum (serum separator tube)	++	++	++
To rule out SARS serologically, it is important to collect serum > 28 days post onset			
RT-PCR			
Blood (EDTA tube)/serum	++	+	--
Respiratory (deep cough sputum is preferred)	+	++	+
Stool	+	++	++

++ Top Priority specimens + Second Priority specimens -- Not recommended

Possible Results and Meaning: Laboratory results must be considered in the context of clinical and epidemiologic information on the patient.

Serology A positive total antibody test is suggestive of a recent infection with SARS-CoV. A negative result on acute sera requires submission and testing of a 28-day convalescent specimen. A negative total antibody test on a 28 day convalescent suggests that the patient has not been infected by the SARS-CoV.

RT-PCR A positive result is considered presumptive until confirmatory testing by a second reference laboratory. A negative PCR test should not be interpreted as demonstrating lack of SARS-COV infection.

For laboratory test interpretation go to http://www.cdc.gov/ncidod/sars/guidance/F/app7.htm

Charge for test: none

Turn-Around-Time: 2 days for serology, 1 day for preliminary results from PCR

Links:

Information regarding SARS laboratory testing may change. Please refer to CDC SARS Web Site for most current information www.cdc.gov/ncidod/sars